REMARKS

Claims 1-21 are now pending in this application. Claims 1 and 11 are independent. Claims 1, 4 and 11 have been amended.

Claim Objections

Claim 4 has been objected to due to minor informalities. As per the Examiner's amendments, claim 4 has been amended. Therefore, Applicant respectfully requests withdrawal of this rejection.

Figure 2 and Yoshikawa et al.

Claims 1-5, 11, 12 and 18-21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Prior Art [1] (Fig. 2) in view of Yoshikawa et al. (U.S. Patent No. 5, 775, 791). Applicant respectfully traverses this rejection.

Applicant respectfully submits that the Applicant has not made an admission of prior art. Rather, the Examiner has inappropriately characterized Figure 2 of the Applicant's disclosure as "Prior Art."

"Prior Art" has a specific statutorily defined meaning. In cases when devices shown in the figures are not known to meet that definition other labels are typically used to refer to the devices. One such common label is "Conventional Art."

[1] As described *Supra* Applicant has not made an admission of prior art.

In this case, the Applicant has referred to Figure 2 and the associated text on page 1-5 as "Conventional Art." If Applicant was aware that Figure 2 was "Prior Art," Applicant would have labeled it as such.

As a result, Figure 2 is not "Prior Art," and its use in the rejection is improper.

Even assuming *arguendo* (which Applicant does not admit) that Fig. 2 is prior art, Fig. 2 and Yoshikawa et al. either alone or in combination, fail to teach all the features of independent claims 1 and 11.

Fig. 2 of Applicant's disclosure depicts a back light unit including a light guide plate 4', a prism sheet 14 and diffusion sheet 12. The prism sheets 14 of Fig. 2 is formed separate and above the light guide plate of the back light unit of Fig. 2. For example, in Fig. 2, diffusion plate 14 spaced away from light guide plate 4'.

Yoshikawa et al. disclose a surface emission apparatus including a light source mounted on a board and a light guide plate made of a transparent member. Small projecting portions 31 are arranged along the lower surface of the light guide plate so that they reflect light through the light guide plate. Further, the light guide plate is made of an acrylic material that allows complete reflection within the member except for the emitted light which occurs at a 90° angle.

In summary, regarding light diffusion, Fig. 2 of Applicant's disclosure is limited in its teaching of light diffusion sheets, which are separate from the

light guide plate. Yoshikawa et al. is limited to projecting portion on the lower surface of a light guide plate.

Therefore, Fig. 2 of Applicant's disclosure and Yoshikawa et al., either alone or in combination fail to teach all the features of claim 1 and 11. For example, claim 1 and similarly claim 11 recite, in part, "wherein the cone pattern is formed on an upper surface of the light-guide plate."

Accordingly, claims 1 and 11 are allowable over the prior art.

Regarding claims 2-5, 12 and 18-21 these claims are allowable for at least the same reasons as their corresponding independent claims. Therefore, Applicant respectfully requests withdrawal of this rejection.

Figure 2 and Ohara et al.

Claims 6, 13 and 14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Prior Art (Fig. 2)[2] in view of Yoshikawa et al. as applied to claims 1-5, 11, 12 and 18-21 above and further in view of Ohara et al. (U.S. Patent No. 5,844,720). Applicant respectfully traverses this rejection.

As discussed above, Applicant has not admitted that Figure 2 is "Prior Art" and Yoshikawa et al. do not disclose all the features of claims 1 and 11. Although Ohara et al. discloses a prism sheet, a review of Ohara et al. reveals that it does not make up for the deficiencies of Yoshikawa et al.

[2] As discussed above, Applicant has not admitted that Figure 2 is prior art.

In particular, Ohara et al. disclose a luminous device having a prism sheet 1, the prism sheet 1 is separate from light conduction part 6. Further, the shape of the underside 3 of the prism sheet 2 is very important. See col. 3, lines 47-59. As a result, Ohara et al. do not suggest the combination of the prism sheet 2 and light conduct part 6.

Accordingly, claims 6, 13 and 14 are allowable over the prior art, and Applicant respectfully requests withdrawal of this rejection.

Figure 2, Yoshikawa et al. and Yokoyama et al.

Claims 7, 8, 13, 15 and 16 have been rejected as being unpatentable over Applicant's prior art (Fig. 2)[3] in view of Yoshikawa as applied to claims 1-5, 11, 12 and 18-21 above and further in view of Yokoyama et al. (U.S. Patent No. 5,899,552). Applicant respectfully traverses this rejection.

As discussed above, Applicant has not admitted that Figure 2 contains any prior art. Further, even assuming *arguendo* (which Applicant does not admit) that Fig. 2 contains prior art, Fig. 2 and Yoshikawa et al., either alone or in combination, do not teach or suggest all the features of claims 1 and 11 from which claims 7, 8, 13, 15 and 16 depend. Although Yokoyama et al. disclose a surface light source with a wedge type light scattering element, a review of Yokoyama et al. indicate that Yokoyama et al. do not make up for the deficiencies of Yoshikawa et al.

[3] As discussed above, Applicant has not admitted that Figure 2 is prior art.

Accordingly, claims 7, 8, 13, 15 and 16 are allowable over the prior art, and Applicant respectfully requests withdrawal of this rejection.

Figure 2, Yoshikawa et al. and Yang

Claims 9, 10, 13 and 17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's prior art (Fig. 2)[4]. In view of Yoshikawa et al. as applied to claims 1-5, 11, 12 and 18-21 above and further in view of Yang (U.S. Patent No. 6,480,307B1). Applicant respectfully traverses this rejection.

As discussed above, Applicant has not admitted that Figure 2 contains any "Prior Art." Further, even assuming *arguendo* Fig. 2 contains prior art (which Applicant does not admit). Fig. 2 and Yoshikawa et al., either alone or in combination, do not teach or suggest all the features of claims 1 and 11 from which claims 9, 10, 13 and 17 depend. Although Yang discloses a plane light surface for backlighting, a review of Yang indicates that Yang does not make up for all the deficiencies of Yoshikawa et al.

In addition, Applicant is herewith submitting an accurate translation of Korean priority document P99-34361, thereby perfecting Applicants claim to priority back to August 19, 1999, prior to the filing date of Yang. Accordingly, Yang is not prior art usable against the present application.

Accordingly, claims 9, 10, 13 and 17 are allowable over the prior art and Applicant respectfully requests withdrawal of this rejection.

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[4] As discussed above, Applicant has not admitted that Figure 2 is prior art.

CONCLUSION

In view of the above amendments and remarks, reconsideration of the rejection and allowance of claims 1-21 is respectfully requested.

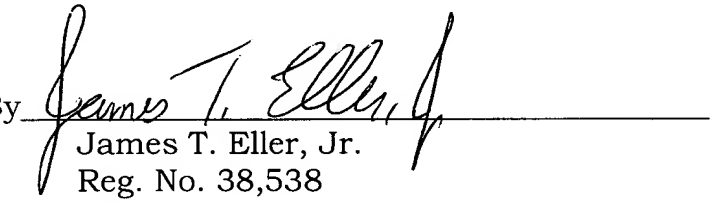
Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned at (703) 205-8000, in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
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Enclosures: Version with Markings to Show Changes Made
Abstract

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Abstract

The Abstract has been rewritten as follows:

--ABSTRACT

[A back light unit in a liquid crystal display is disclosed.] In **[the]** **a** back light unit, a light-guide plate is provided with a cone pattern to uniformly guide a light beam passing through a light input. A light-path converter controls a progress direction of the light beam in such a manner that the light beam outputted from the light-guide plate is progressed in a direction perpendicular to a liquid crystal panel. A diffusion sheet diffuses the light beam passing through the light-path converter into the liquid crystal panel. **[Accordingly, a]** **A** reflection of the light-guide pattern and wall surface **[as well as]** **and** the bright lines of the light input can be minimized. **[In addition, the]** **The** light efficiency can be improved and the manufacturing cost can be reduced.--

In the Specification

The paragraph beginning on page 1, line 8 has been replaced with the following rewritten paragraph:

--Generally, a liquid crystal display (LCD) controls an amount of light transmitted from a back light unit. The transmission is controlled by means of a liquid crystal panel including a number of liquid crystal cells arranged in a

matrix and a number of control switches for switching video signals to be applied to the liquid crystal cells, thereby displaying a desired picture on a screen. Conventional back light units will be described with reference to Fig. 1 and Fig. 2 **[below]**. --

The paragraph beginning on page 2, line 14 has been replaced with the following rewritten paragraph:

--The light entering the liquid crystal panel at right angles **[have]** **<u>has</u>** a large light efficiency. Thus, it is preferred that the light enter the liquid crystal panel perpendicular to the surface of the liquid crystal panel. Towards this end, two forward prism sheets are disposed to make the angle of the light exiting from the light-guide plate 4 perpendicular to the liquid crystal panel. Referring to Fig. 1, the light passing through the first and second prism sheets 8 and 10 is incident to the liquid crystal panel via the second diffusion sheet 12.--

In the Claims

The claims have been amended as follows:

1. (Amended) A back light unit in a liquid crystal display including a lamp generating a light, and a light input having a lamp housing for housing the lamp and reflecting the light, said unit comprising:

a light-guide plate including a cone pattern to uniformly guide the light from the light input;

a light-path converter to control a progress direction of the light in such a manner that the light outputted from the light-guide plate is progressed in a direction perpendicular to a liquid crystal panel; and

a diffusion sheet for diffusing the light passing through the light-path converter into the liquid crystal panel**,**

wherein the cone pattern is formed on an upper surface of the light-guide plate.

4. (Amended) The back light unit according to claim 2, wherein a diameter **of** a cone of the cone pattern ranges from about 100 to about 500 μm and a height ranges from about 50 to about 900 μm.

11. (Amended) A back light unit for a liquid crystal display, comprising:

a lamp in a lamp housing;

a light-guide plate aside said lamp and said lamp housing, said light-guide plate including cones distributed in a pattern;

a reflective plate placed below said light-guide plate; and

a diffusion sheet disposed above said **[light-path converter]** **light guide plate,**

wherein said cones are formed on an upper surface of said light-guide plate.